

39, these claims, as filed, already recited that the bumpers are "more rigid" than the flexible dampers. Claims 1 and 39 were amended to make it more clear that the bumpers are more rigid than the dampers.

I. FORMAL MATTERS

Applicant notes with appreciation the Examiner's indication that claims 18-22, 27, 28, 35, 49-53, 58, 59 and 64 are allowed and claims 23-26, 29-32, 54-57 and 60-63 would be allowable if amended to overcome the rejection under 35 U.S.C. § 112, second paragraph.

The Office Action includes a copy of the PTO Form 1449 that was submitted with the Information Disclosure Statement filed on November 20, 2001. The reference is initialed by the Examiner, thereby indicating that this reference was considered by the Examiner.

The drawings filed on August 20, 2001 are objected to because Figure 1 is not labeled as Prior Art, and because Figs. 3A, 3B, and 3C should be labeled as Figs. 3, 4, and 5, respectively. Applicant submits herewith a Request For Approval Of Proposed Drawing Changes to make these changes to the drawings.

Claims 6-9, 12-17, 23-26, 29-34, 44, 45, 47, 48, 54-57, and 60-63 are rejected under 35 U.S.C. § 112, first paragraph because the term "about" allegedly is not definite. Applicant respectfully submits that expressions, such as "about," "approximately," and "substantially" are not indefinite and are generally acceptable to accommodate minor variations in the scope of the invention. See *Ex Parte Eastwood et al.*, 163 USPQ 316, *W.L. Gore & Assoc. Inc. v. Garlock Inc.* 220 USPQ 303, and *Verve LLC v. Crane Cams Inc.*, Fed. Cir. No. 01-1417, November 14, 2002. Therefore, Applicant respectfully submits that these claims are not indefinite and respectfully requests the Examiner to withdraw this rejection.

II. PRIOR ART REJECTIONS

A. Claims 1, 2, 5, 11, 39, 40 and 43

Claims 1, 2, 5, 11, 39, 40 and 43 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,236,426 (Meinke). This rejection is traversed.

Applicants respectfully submit that Meinke does not teach or suggest a flexible damper and rigid bumpers having a first and second stiffness, respectively, wherein the second stiffness is greater than the first stiffness, as recited in independent claims 1 and 39. The Examiner asserts that element 13 is a flexible damper and that element 14 is a rigid bumper. Elements 13 and 14 are merely schematic representations of the ring 12 (see column 4, lines 15 - 18). Accordingly, elements 13 and 14 inherently have the same stiffness. Therefore, Applicant submits that Meinke does not teach this feature of independent claims 1 and 39. Accordingly, Applicant submits that these claims are not anticipated by Meinke.

Since claims 1 and 39 are not anticipated by Meinke, claims 2, 5, 11, 40 and 43, which depend therefrom, also are not anticipated by Meinke. Thus, Applicant submits that the rejection of claims 1, 2, 5, 11, 39, 40 and 43 under 35 U.S.C. § 102(b) is improper.

B. Claims 3, 4, 41 and 42

Claims 3, 4, 41 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Meinke in view of U.S. Patent No. 5,504,381 (Kato). This rejection is traversed.

Applicant submits that Kato fails to make up for the above deficiencies of Meinke. That is, Kato does not teach or suggest, a flexible damper and rigid bumpers having a first and second stiffness, respectively, wherein the second stiffness is greater

than the first stiffness, as recited in independent claims 1 and 39. Therefore, Applicant submits that the combination of Meinke and Kato does not form the invention defined by claims 1 and 39, and claims 3, 4, 41 and 42, which depend therefrom. Therefore, Applicant submits that claims 3, 4, 41 and 42 would not have been obvious over Meinke and Kato and that the rejection of claims 3, 4, 41 and 42 under 35 U.S.C. § 103(a) is improper.

C. Claims 6-10, 12-17 and 44-48

Claims 6-10, 12-17 and 44-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Meinke. This rejection is traversed.

As presented above, Applicants respectfully submit that Meinke does not teach or suggest a flexible damper and rigid bumpers having a first and second stiffness, respectively, wherein the second stiffness is greater than the first stiffness, as recited in independent claims 1 and 39, on which claims 6-10, 12-17 and 44-48 depend. Since Meinke fails to teach or suggest this claim feature, Applicant respectfully submits that claims 6-10, 12-17 and 44-48 would not have been obvious over Meinke. Therefore, Applicant submits that the rejection of claims 6-10, 12-17 and 44-48 under 35 U.S.C. § 103(a) is improper.

The Examiner asserts that it claims 6-10, 12-17 and 44-48 would have been obvious because discovering an optimum value of a result effective variable involves on routine skill in the art. Applicant submits that a particular parameter must first be recognized as a result-effective variable before the determination that the an optimum range would have been obvious (see MPEP 2144.04 II. B.). Applicant submits that Meinke does not recognize that the clearance between a stator and a rotor, the clearance between an outer race and rigid bumpers, the stiffness of flexible dampers and the stiffness of rigid bumpers are result-effective variables. Therefore, Applicant submits that the ranges recited in claims 6-10, 12-17 and 44-48 would not have been obvious over Meinke.


Amendment Under 37 C.F.R. § 1.115
U.S.S.N. :09/933,496
Art Unit: 2874
Filed: August 20, 2001
Examiner: Le, Dang D.

Based on the foregoing, Applicant submits that the present application is in condition for allowance. Applicant kindly requests the Examiner to contact the undersigned at the phone number listed below to discuss this application, if the Examiner feels that such discussion may expedite prosecution of the present application.

Applicant believes that no additional fees are due for the subject application. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. 04-1105.

Respectfully submitted,

Date: December 5, 2002


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please amend claims 1, 6, 8, 12, 23, 25, 29, 39, 44, 45, 54, 56, and 60.

1. (Amended) A damping system for an evacuated energy storage device, said device having a rotor assembly that is rotatably supported and guided by a bearing assembly, comprising a rolling element substantially confined between an inner and an outer race, and a stator assembly, the system comprising:

one or more flexible dampers, each having a first stiffness; and
a plurality of more rigid bumpers, each of said plurality having a second stiffness, wherein said second stiffness is greater than said first stiffness.

6. (Amended) The damping system as recited in claim 5, wherein the first clearance is about 13 to about 17 mils.

8. (Amended) The damping system as recited in claim 5, wherein the second clearance is about 8 to about 12 mils.

12. (Amended) The damping system as recited in claim 11, wherein said second clearance has a magnitude of about 8 to about 12 mils.

23. (Amended) The bearing assembly system as recited in claim 22, wherein the first clearance is about 13 to about 17 mils.

25. (Amended) The bearing assembly system as recited in claim 22, wherein the second clearance is about 8 to about 12 mils.

29. (Amended) The bearing assembly system as recited in claim 28, wherein

said second clearance has a magnitude of about 8 to about 12 mils.

39. (Amended) An evacuated energy storage device, said device comprising:
a bearing assembly; said bearing assembly further comprising:
 an inner race,
 an outer race,
 a rolling element, wherein said rolling element is substantially confined
between said inner and said outer race;
a rotor assembly that is rotatably supported and guided by said bearing
assembly;
a stator assembly; and
a dual stiffness damping system, the system comprising:
 one or more flexible dampers, each having a first stiffness; and a
 plurality of more rigid bumpers, each of said plurality having a second
stiffness, wherein said stiffness is greater than first stiffness.

44. (Amended) The evacuated energy storage device as recited in claim 43,
wherein the first clearance is about 13 to about 17 mils.

45. (Amended) The evacuated energy storage device as recited in claim 44,
wherein the second clearance device is about 8 to about 12 mils.

54. (Amended) The evacuated energy storage device as recited in claim 53,
wherein the first clearance is about 13 to about 17 mils.

56. (Amended) The evacuation energy storage device as recited in claim 53,
wherein the second clearance is about 8 to about 12 mils.

60. (Amended) The evaluated energy storage device as recited in claim 59,
wherein said second clearance has a magnitude of about 8 to about 12 mils.